

To our customers,

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## Old Company Name in Catalogs and Other Documents

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On April 1<sup>st</sup>, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

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Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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(3) Software workaround

This phenomenon can be avoided by the software workaround which inserts following instruction sequence (\*\*\*)(\*\*\*\*) to the NMI exception handler routine.

Notes:

(\*\*\*) When SR.BL bit is changed in NMI exception handler routine, please insert this instruction sequence at the location before SR.BL changes.

(\*\*\*\*) R0 to R3 can be replace with other registers.

If the register store/restore are necessary, please add them to the beginning and the ending of this instruction sequence.

```
;;;;;;
;; R0 : tmp          R1 : Original SR
;; R2 : Original ICR R3 : ICR Address
;;;;;;
NMIH:
;(1) Set SR.IMASK = H'F
    stc     SR, R1          ;          SR store
    mov     R1,R0
    or      #H'F0,R0
    ldc     R0, SR

;(2) Reverse ICR.NMIE
    mov.l   #ICR, R3
    mov.w   @R3, R2        ;          ICR store
    mov.w   #H'0100, R0   ;
    xor     R2, R0        ;
    mov.w   R0, @R3       ;          ICR.NMIE (Reverse and dummy write)
    bra    NMIH1
    nop
    .pool
    .align  4

NMIH2:
;(3)
    mov.w   @R3, R0        ;          dummy read
    mov.w   R2, @R3       ;          ICR.NMIE (Write)
    stc     SR, R0
    ldc     R0, SR
    ldc     R1, SR        ;          SR restore
    bra    NMIH3
    nop

NMIH1:
    bra    NMIH2
    nop

NMIH3:
;;;;;;
```